

Glass Mountains

March 27 - April 3

1966.

①

March 27

B+W - 5-9 *Saccinella* boulder in
cgl. on Lamoyn Hills

Color - 0-5 *Saccinella* boulder

The west side of the bioherm
overlies the cgl. and along the face
of the bluff a solid layer of rock
indicates a tongue of the reef
or reef debris extending over the
cgl. When cgl & reef meet on its
west side a knob or subsidiary
reef with many sponges actually
overlies the cgl. The cgl. thus seems
to be derived from these bioherms
or ones like them

B-W - 13+14 Sponge reef over cgl.

Color - 5-8 " " " " "

B-W - 19 - *Geyerella* & *univerrucosa* top from East

Color - 9-12 *Geyerella* & *univerrucosa* top from
East

736 B - faunlines taken from about
5-10' from the base of bioherm at east
end about 15'-20' from fault.
Fossils in lower 20' - *Hededia*,
Rhip. hassensis, many *bufoxa*,
Girtycoelia. Concentration of big
crinoid stems about 60' from
east end. Possible algae with
the crinoid stems. *Acroania*,
small corals

②

The reef mass just on west side of large reef seems to overlie cgl. The cgl may be a reef core. Part of the western boulder looks like a sand bank. It is mound-like and the overlying dark gray blocky beds wrap over it. Not many fossils seen. Large *Enclites*.

Top of boulder has a siliceous skin an inch or less thick.

Gayella 10' below top of main reef mass. Main mass of reef probably a sand bank.

The fault on the east side has a throw of about 20-25' and brings the top of the Sullivan Peak in juxtaposition with the top of the reef.

736c - *Fusulines* from east end faulted block, 1' below top of massive Sullivan Peak. W side of this block is mainly cgl. but east side seems to be bouldrial, very solid, with *Byozoa* and *Limella*.

Saw a *Spirindiphora* in one of the boulders west of the main reef mass.

Except where there are cementing structures, most of the reef is a fine sandstone or coarse calcarenite.

③

The cementing structures are usually in very fine-grained almost smooth rock. ~~Bryozoans~~ are abundant in the reef. Top of reef hummocky. Fossiliferous boulders are all Pennsylvanian so far as I could see. I doubt if the blocks with scaphinella could come from anywhere but the Sullivan Peak. Presumably the Poplar Fork completely covered the Decatur Ranch which could not have supplied the debris.

Hill East of 4801

About 50 yds east of ravine + 50' above Sullivan Peak bioherm with *Spirifer* *Edwardsi* stages, about 4' thick, 5 or 6' laterally. About 58 yards east of ravine and on slope of a lateral one, top of Sullivan Peak has a sandy thin and is overlain by about 20' of fine crumbly shale. Top of SP with biohermal beds in blocky beds. Small reefy mass of *Acritaria*. *Rhipidoceras*. These in up 10'. Rest of SP mostly dark calcarenite, blocky. Seems more massive than the beds above the big reef. Some thin-bedded platy beds. Congl. patches like small reefs.

(4)

Small gully, east of main gully
opposite fault block,

4'

16'

51

4'

17'

massive coherent ledge biohermal agglomeration

Blocky, thick-bedded (6") like over-reef *fenestrata*

Ribbon banded silica plates in thin bedded ls.

mostly covered

Massive cgl & biohermal like below

Minor more
SP

Beds above SP cgl here are about
50' thick

(of SP)

736d - abundant ammonites about
10-15' below top almost at head
of easternmost gully but in
unfaulted block.

(hill with
4900' contour)

Walked top of SP to where hill
flattens just west of a high
Peak opposite a deep gully. The
upper SP is a sand bank with
bioherms in it. SP is a great
detrital mass in which bioherms
existed. Cgl probably intraformational
& off bioherms. Flattened hill is
set off from crest by a gully
Coscinophora in very top

Biohermal patch of large *Geyanella*
about 200 yds east of high crest
Also big *Desorja*

BW - 20, 21 probably chert in middle SP
Color - 18 & 19 " " " "

(5)

West from crest The lower SP is massive calcarenite with chert pebbles. Rather angular and brown, an occasional or more also ragged suggesting a boulder of Loup Hills cgl. all reminiscent of Dixie Ranch member B-W 25-26 Contact PT + SP Color 23-24 " " " "

Saw thick bed of pinkish chert in about middle of Sullivan Peak. I think cgl and bioherm are contemporaneous. Saw no *Saccchinella* in the SP where we studied it but they should be there. Actually they are rare in the SP which makes the boulder of *Saccchinella* hard to explain. Nevertheless the fossil boulders all seemed good Permian types. The *Spiridionella* would be an unlikely derivative from any beds besides the S.P. *Saccchinella* could usually be found in the SP at the east end of the Loup Hills. I suspect that the boulders in the cgl. are from many bioherms.

6

March 28

B-W - 27 - Hill with ss + Rd Canyon
Color - 28 - " " " " " "

Top of hill N75°W of hill 4861 about S 30°E
of A

Top of hill		
736e		
I	15	mostly platy shale capped with 2' ledge of limestone containing fusulines
H	9'	736f massive ledge in two thick layers of ls with small brown pebbles
G	11'	covered but with yellow siliceous shale chips
F	736g 6'	massive ledge of fusuline ls
E	26'	gray shale under a rubble slope
D	3'	sandstone breaking into small lumps
C	1'	lens of dark brown ss with fossils, smelly
B	5'	Light gray ss
A	12'	Brown coarse ss in two layers each 3'-4' thick with lighter ss between This is the ammonite level.

Mostly sandstone breaking in irregular lumps

98' vertical from top of hill to ss A.

From H to top of hill 7 steps with compass at 20°.

C-lens Rug. parvirostris

I - above the 2' ledge are at least 5 feet more of shale and a gray ls lens caps the hill N62°W 20° NW measured on 2' bed, 2' ledge = 736e

⑦ H=736f - Top of massive ledge 15' below top of hill

F=736g fusulines

Section here not like the hill 486f because what seems to be Leonard cyl level is a coarse brown sandstone without ammonites but saw Rugosia of the Leonard where the contact is I have no idea. Saw no diagnostic Road Canyon things

736h - Ammonites in conglomerate on bank on south side draw. This location is similar to the beds at hill 486f but the ammonites are more concentrated at this locality. The ammonites are almost wholly Perinites but an occasional nautiloid was seen. Spiniferoids are fairly common. The Rugosia from the hill on the west belongs at this level.

Apr 28

736i - Rugosia from lens (= bed C) just above the thick sandstone.

(8)

March 29
736-1

Beds on top of Road Canyon
are mostly platy sands & ls.

at 150-200 paces come smooth ls
lenses, weathered light gray - no fossils

At 227 paces all covered. 1243 paces
more to base of ss hill.

Lower part of ss hill in irregular
platy ss.

Color 33 + 34 - Bioherm in base of
Road Canyon - hill with loose fossils

Color 35 + 36 - High Peak showing Wrb
+ capitulum

Black + White - Bioherm & Wrb as above
last 3 or 4.

Top of ss has crinoid stems.

Neospirifer meekella, Phamnosia

Section above big ss.
N30 W 90 W measured on
yellow gray impure ls.
Compass set at 90

Hill 4806

9

Section above sandstone
Northwest side Dugout Mtn.
Hill 4806

Exogyra
Nerinea
Purcellia

all Cretaceous

Covered above this to hill we
worked in yesterday

To bottom of low hill capped with
this rock

736 K

-37' by level	6 steps	
	J	
	4 steps	covered probably dolomite
H	3'	dolomite ledge fine grained sugary.
G	3 steps	covered + about 2'
F	1 step	736 j gray butte conchoidal fracture ls with ammonites ^{Some calcarenite pale}
E	4 steps	Mostly covered yellow sandy chips in soil
D	1 step	platy sandy rock capped by lens of yellow ls.
C	1 step + 3'	same capped by yellow ls - no fossils
B	4 steps - 1'	mostly platy yellow rock capped by yellow ls.
A	5'	covered
	SS	

(10)

736-2 same as collecting place of 1965 and 1963 in upper part of Two-Tiered Road Canyon. Several Collumatus found which come in the upper tier of beds with the very abundant franklinias. Search prior collections for Collumatus.

Also 736+

736+ = 736-2 = 200v

736m - Possible Thammosia from top of thick sandstone of March 29th.

Color - Roll 4 - 1-4 cactus & Cathedral Mtn

March 30

Color 5-14 Views of Dixie Ranch

Visited area of supposed Neal Ranch with Byington. According to B. Dan Jarvis' questions The interpretation of Ross. We agreed on seeing the stuff that it seemed to be structurally in accordance with the Lenox Hills. Actually the col. seemed to finger with some of the bioherms. I suspect that it is simply biohermal beds at the base of the Lenox Hills. The brachiopods certainly are not strongly biased toward Lenox Hills. The crux of the situation will be determined by the franklinias and ammonites.

(11)

March 31

Bill Shree

ds basal Lenox Hills - Neal Ranch?

Catto - Sage - Pausano Catto Co

736n - West end flattop hill just E of ravine 30' of slope with numerous bioherms under cgl. Saw Helvapongia Parentolites, Limbella. Saw no bioherms in cgl. What appears to be cgl in place appears under the bioherms. Probably at least 50' or 60' of bioherms here. Saw no angularity such as described by Ross. Actually I saw no bedded rock that would give a strike and dip.

At 707j a veneer of fine calcarenite occurs over the novaculite or possibly in it, but I could find no fossils in it.

at 736n saw several float blocks of *Coccinophora* but could not tell where they came from but it is most likely from the Decie Ranch member which caps the hill.

(12)

April 1

Went to Hess Ranch with oil group, to Hess R. Horst to look around. I went to north side and found *Scaphinella violacea* resting on calcarenite of Lenox Hills fm. These occurred on south side of small gully at base of Horst near locality 720c.

We went thru the pass which has the white capped knob. The limestone capping the knob extends down to and under the bottom referred to above. This is a good measure of slope going from 5300 to about 5050' about 250' in 1500' = 1 foot in 6 = 880' per mile = about 10° but this is only a component of the true dip. No concrete evidence of the Skinner ranch passing into Hess lithology was seen.

In afternoon went to hill 4861 but saw no new features. A fault clearly runs along the east face of this hill.

(13)

April 1

Color 5-1-9 Deer Ranch
along Yader Ranch road, 9 in
view of large hill with Getacous
unconformity

Sullivan Peak

BW 2 - 9, 27 same as above

Section on Sullivan Peak

N21°E 12°W Measured on beds about 30' above
massive biherm

A - Massive, many corals. Biherm
discontinuous have shaly, yellow
rock underneath, which makes
contact with Road canyon bituminous
ls. which is draped over the top
Biherm estimated at 15', possibly
20' thick

BW 2 - 27 Biherm at base of R.C.

28 Contact & R.C.

Slope dip

51

43°

Measurements from top of biherm
Top of hill is at 55 of slope and
90° of dip. This seems to be very
top of limestone as the top is covered
with yellow fragments
Top of hill at 5350 and came up 297' of
slope puts biherm top at 5045' and
base at about 5025 contour.

Upper massive beds form a
dip slope to saddle

E 20' of slope above point where
upper bihermals dip under saddle

2 pages over

5350
297
5045

sampled at

5350

1mm = 10'

28

5350
5045

305

9

28

12

57

106

41

12

6

33

55

=

9

26

12

54

100

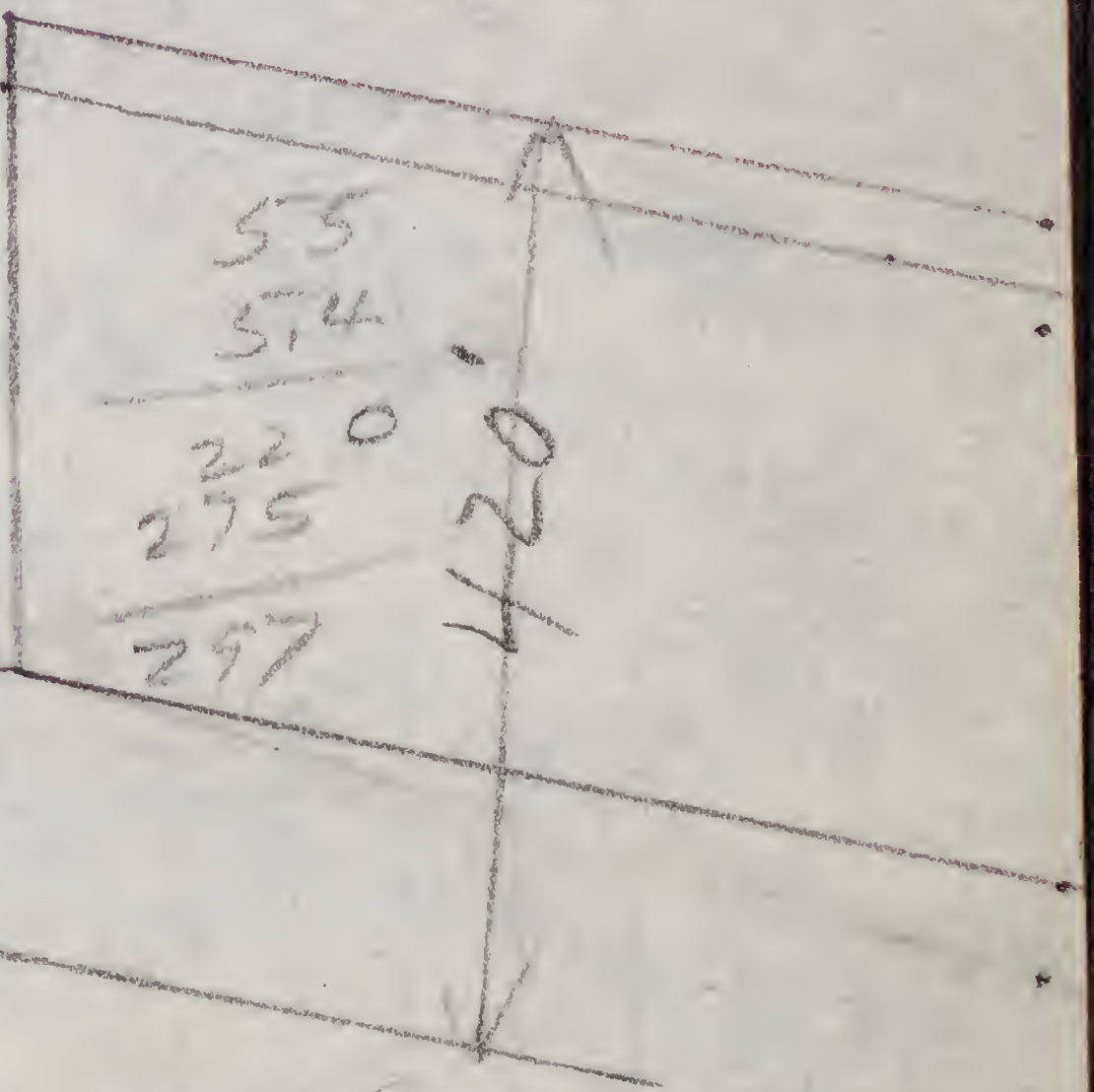
7

22

11

60

100



357

3476

387

26

2322

387

6192

39

97

84

13

140

367

20

387

43

39

3

176

1307

198

179

13

15

(14)

7360 - 30' of slope below top of hill =
about 35' stratigraphically =
35' below top of D.

7314 - Fossil bed

125' +

20' of slope
Eg steps of
dip at 120

12' 7360
12' of slope
D 26' of dip

C 12' 6' of dip
6' of slope

B 5' 9' of dip
3' of slope

A 15'-20' Massive bioherm

Flanner bedded ls with some subcon-
yellow rock forms small rise above saddle

Top at 5.1 of slope and 97 of dip

At 83 of dip many fusulines. Sample at 84

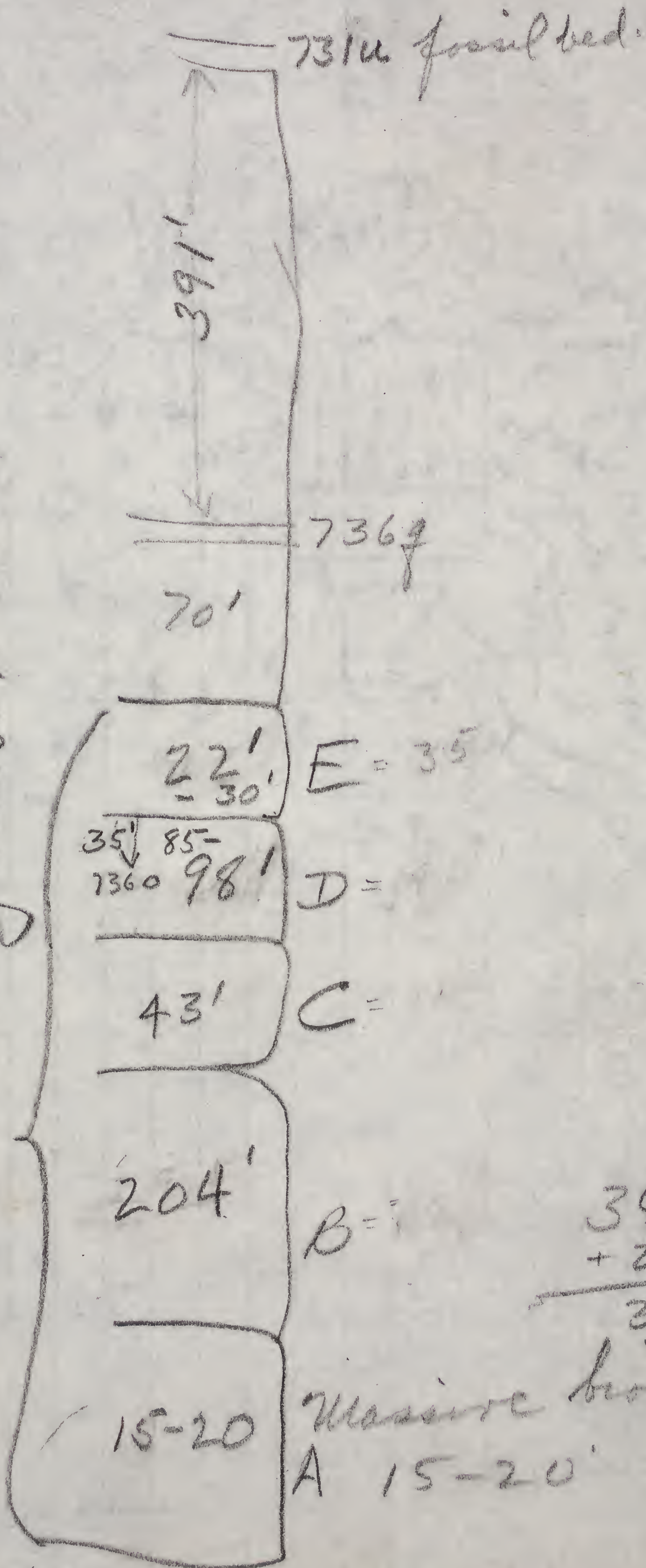
Rock coarse bedded more
granular - very granular with many
fusulines, sponges, corals, bioherm at top
5'

Fossiliferous heavy-bedded bituminous ls.
Piece of ammonite at top = 7362

Cherty thin bedded slabby bit. ls.

over

Road Canyon = 387



387
70
391
848

46
77
222

22
98
43
20
20
383

367' total
+ 20
387'

17
81840

(15)

are bluish granular ls
nearly black in fracture
somewhat lenticular in structure
in blocky siliceous rock, forms
transition to shale. Fine
calcareous. The upper 5' of this
interval is mostly blocky, silty
rock with occasional ls. lens.

Strike & dip on base of Wood
N 42° E 18° NW. Wood starts

0-14 steps of dip at 18°

yellow silty siliceous rock

At 14 comes a one-1/2 foot
band of ls with siliceous rinds

736g Fusulines common.

14-33- Yellow siliceous rock breaking
pieces one or two inches. Thick,
much laminar-bedded than below
at 54 come to sharpening of hill
and where ravines converge into
hill - very head of ravine

33-85 - Thin-bedded yellow shale
or siltstone with scattered ls
concretions. At top is one fossil bed
in two layers, the lower 2'
separated by about 3' of black
chert. The upper bed sandy and cherty
also with fossils.

A 30' massive ~~bedded~~ ~~at~~ ~~the~~ ~~probably~~ ~~base~~
of section with shaly Leonard in slope

(16)

N 23° E 11° NW on upper fossil bed.

Fossil beds take 2 steps at 11°

Fossil bed up at 11°

0-11 - micaceous yellow shale and some blocky limestone with numerous light gray weathering ls lenses. The limestone black on fracture.

11-15 - same but more black ls

15-20 bluish shale with large ls concretions, blk ls, weather yellow gray. This is at foot of steep slope.

20-58 up steep slope to Thick ss bed - Slope mostly covered but having washes of light blue gray shale from which weathers small round ball-like concretions. The ss is platy and thin bedded at least in the lower part. This is almost certainly the pinkish ss in King + Ross' sections. Fossil bed must be 220-250' below King's thick ss.

The slope above the ss to the base of the Opitima looks about the same thickness as that below the ss to the top of the last ls. The soft shale also has ls concretions with black

38
2

76
19

(17)

skins.

The lower lens is only about 100 feet long whereas the upper one extends around or across the hill from gully to gully. On the east of hill it thins out. It is much less fossiliferous than the lower lens.

The upper ^{fossil} layer shows contorted bedding in places which may reflect some folding. This may also account for the lenticularity of the lower parts of the layer.

B-W 2 - last views of limestone with contorted bedding.

Color 5 - up to 27 same as above also views of mountain front from Davis bump-gate.

(18)

April 3

Pacing from X in stream

0-90 covered

at 90 about 30 paces in massive
biohermal ls. Onotitella. This
is on flank of King's 104,

at 300 paces stream choked
with boulders of chert, and
rock forms small gorge.

at 412 paces a falls in stream.
Chert rock forms bed and banks
of stream.

at 490 bluff of thick-bedded
Cathedral Mtn. Dips appear
to be to S or SE.

at 508 dolomitic rock dipping
S. and clearly under the chert
has ghosts of bryozooids

508-765 massive thick bedded
dolomite. At 765 some deformation
of dolomite, breaking into small
pieces

At 1100 paces come to road
and stream crossing. Saw
dolomite all the way. At stream
& road crossing a few bioherms
but I saw no chert. in them
See notes of 1965.

(19)

Near north gate fence extends up hill crossing hill 5601 just west of Knight fault.

Here 2 levels of bioherms in R.C. Found Waagenoceras but it is clearly Word #3 float.

At about A the thick lower edge of the R.C. has dark gray, fine grained limestone. The weathers light gray, heavy bedded (4" - more than a foot. Of this there are about 8'. Below this are irregularly bedded black fine ls with some black chert. Reminiscent of the Sullivan Peak section, of this there must be 5 more feet. Below this some 12' of bioherms. The beds like those at Sullivan Peak are sandwiched between bioherms.

The bottom of the R.C. is very irregular. The dark beds at the base of the middle bioherms often become finely granular and contain greenalines. I think these are the beds that produced the Perminites at 726C farther northeast on the hill.

The beds containing *C. batelziformis* are very thick here.

(22)

often just a single. Thick layer 3 or 4 feet thick. This is separated from the second tier of bioherms by several feet of yellow shale. Above this bed often there is only yellow shale or an occasional thick bioherm. The yellow shales commonly have thin lenses of limestone or bioherms. Some of the ls seems to have contorted bedding.

736W - Word #3 float picked up on Road Canyon outcrops between two bioherms. First ledge just west of fault, hill 5501 Hess Ranch.

736V - Same but from lower bioherm of Road Canyon.

141666
2450

144116